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㉕ **Colour fading of material.**

㉕ Cloth material such as blue jeans are colour faded by contact with a bleaching agent which, according to the invention, is present in the pores of a preformed carrier having a density of about 1 and a porosity of about 40% to about 65%.

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COLOUR FADING OF MATERIAL

The invention relates to colour fading of material, such as coloured denim cloth, e.g. fading blue jeans. It is known to use a bleaching agent for this purpose, and various bleaching compositions have been proposed for use in fading the jeans either in a water wash or in the absence of a liquid medium. It is known from BE-A-905631 and its equivalent EP-A-0238779 to impregnate the bleaching agent into granules of coarse permeable material such as pumice stones. Such material is natural and is of variable properties as a result of which the colour fading cannot be controlled. It is also known from GB-A-1459973 to locate particles of solid bleach in the pores of a polyurethane foam. An article in the November 1986 issue of the Manufacturing Clothier, pages 27 to 31, points out that alternatives to pumice stone have been tried, and mentions soft sandstone to artificial types made from ceramics and artificial stones. The use of these alternatives is discouraged, because of cost and because they are more severe on the washing machine.

It is one object of the invention to provide an improved means for carrying the bleaching agent into contact with the material, in particular in control of bleaching and level of abrasiveness.

According to one aspect of the invention there is provided a method of colour fading a material such as coloured denim, e.g. blue jeans, comprising contacting the material with a bleaching agent therefor, the bleaching agent being present in the pores of a porous carrier, characterised in that the bleaching agent is present in a preformed refractory carrier having a density of less than about 1 and a porosity of about 40% to 65%.

In one preferred method, the material and the carrier are tumbled together in the absence of a liquid medium. In another preferred method, the material and the carrier are contacted together in a water medium.

In another aspect, the invention provides a method of making a preformed carrier for a bleaching agent for use in colour fading a material such as coloured denim characterised by mixing together a refractory material and a temporary filler to form a low density mix, adding a temporary binder, making a shape of the resultant bonded mix, burning off the binder and the temporary filler to form a porous carrier having a density of below about 1 and a porosity of about 40% to about 65%, and then introducing the bleaching agent into the carrier.

Preferably, the mix of refractory material and the temporary filler are mixed with the temporary binder to form a mix which is extruded and/or

briquetted. Preferably the temporary filler is carbonaceous, e.g. naphthalene, coal, coke, walnut stone, olive stone or the like. Preferably the refractory material is a clay such as ball clay, or a grog, or the like. A fibrous material such as wollastonite may be present. Conveniently, the temporary binder is water.

In order that the invention may be well understood it will now be described by way of example with reference to the following examples in which parts are by weight.

Example 1

A mix of
ball clay 30
wollastonite 30
naphthalene 40

was blended with water to form a moist mix which was extruded and then briquetted. The formed briquettes were fired at 1200°C to form briquettes having a density of about 1 and a porosity as measured by water absorption of 40% to 65%.

The briquettes were soaked in bleaching agent, lightly drained and then used to colour fade blue jeans by being tumbled dry until the jeans had a marbled finish. It was observed that the jeans were uniformly coloured i.e. there was no colour streaking. The briquettes could be reloaded with the bleaching agent after all the bleaching agent therein was used up.

Example 2

Comparative tests were done comparing briquettes according to Example 1 and pumice briquettes which are used for colour fading jeans.

When both briquettes were soaked in the same bleaching agent it was observed that

(i) the rate of uptake of the briquette of Example 1 was faster

(ii) the total uptake, measured by weight, of the briquette of Example 1 was about 50% greater than that of the pumice.

The briquettes were subjected to a surface abrasive test and it was noted that there was less weight loss in the case of the briquette of Example 1.

These results show that the briquettes of Example 1 can carry more bleaching agent and yet will last longer than pumice. Because the briquettes are produced to a preformed standard, it was noted

that there was no variability between them, in the way that happens with pumice whose uptake of bleaching agent can vary substantially.

Claims

1. A method of colour fading a material such as coloured denim cloth, e.g. blue jeans, comprising contacting the material with a bleaching agent therefor, the bleaching agent being present in the pores of a porous carrier, characterised in that the bleaching agent is present in a preformed refractory carrier having a density of less than about 1 and a porosity of about 40% to 65%.

2. A method according to Claim 1 characterised in that the material and the preformed refractory carrier are tumbled together in the absence of a liquid medium.

3. A method according to Claim 1 characterised in that the material and the preformed refractory carrier are contacted together in a water medium.

4. A method of making a preformed refractory carrier containing a bleaching agent for use in colour fading a material such as coloured denim characterised by mixing together a refractory material and a temporary filler to form a low density mix, adding a temporary binder, making a shape of the resultant bonded mix, burning off the binder to form a porous carrier having a density of below about 1 and a porosity of about 40% to about 65%, and then introducing the bleaching agent into the carrier.

5. A method according to Claim 4 characterised in that the mix of refractory material and the temporary filler are mixed with water as a temporary binder to form a moist mix which is extruded and briquetted.

6. A method according to Claim 4 or 5 characterised in that the temporary filler is carbonaceous.

7. A method according to Claim 4, 5 or 6 characterised in that the filler is a naphthalene, coal, coke, walnut stone or the like.

8. A method according to any of Claims 4 to 7 characterised in that the refractory material is a clay, or the like.

9. A method according to Claim 8 characterised in that the clay is a ball clay, grog or the like.

10. A method according to any of Claims 4 to 9 characterised in that the mix is fired at about 1200°C to burn off the temporary filler and the binder.

11. A method according to any of Claims 4 to 10 characterised in that a reinforcing fibrous material is present.

12. A method according to Claim 11 characterised in that wollastonite is present.

13. A preformed refractory carrier when made by a method according to any of Claims 4 to 12.

14. Denim material e.g. blue jeans, whenever colour faded by a method according to Claim 1, 2 or 3.



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl.4)
D,A	BE-A- 905 631 (GOLDEN TRADE S.R.L.) * Page 7, lines 21-25; page 8, lines 1-11; claims 1-5 * ---	1,2,14	D 06 B 11/00 D 06 L 3/00
D,A	FR-A-2 259 179 (THE PROCTER & GAMBLE CO.) * Page 3, lines 19-40; page 4; page 9, lines 1-14 * ---	1,2,14	
A	FR-A-2 525 644 (SB ABRASIVI SCATTOLIN SPA) * Whole document * ---	1-4	
D,A	MANUFACTURING CLOTHIER, November 1986, pages 27,29,31, United Trade Press Ltd, London, GB; "All shook up" * Page 27, right-hand column, last two lines; page 29, left-hand column, first four lines * ---	1,3	
A	FR-A-2 517 710 (ABM SERVICE-FR.) * Claims * ---	1,3	TECHNICAL FIELDS SEARCHED (Int. Cl.4)
P,A	FR-A-2 591 624 (THAURONT) * Page 5, lines 9-37 * ---	1,3	D 06 F C 11 D D 06 B D 06 C
P,A	EP-A-0 263 498 (K.R. ULMER) * Claims 1,5 * -----	1,2,14	
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 12-08-1988	Examiner D HULSTER E.W.F.
CATEGORY OF CITED DOCUMENTS X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons ----- & : member of the same patent family, corresponding document			